

MASS.
EA20.1:
989-992



312066 0271 6260 4



MILESTONES

Annual Report for Fiscal Year 1989
Massachusetts Department of
Environmental Protection

COLLECTION

FEB 11 1992

University of Massachusetts
Department of Environmental Protection

Commonwealth of Massachusetts • Michael S. Dukakis, Governor
Executive Office of Environmental Affairs • John P. DeVillars, Secretary
Department of Environmental Protection • Daniel S. Greenbaum, Commissioner
Public Affairs Office • One Winter Street • Boston 02108

As it embarks on its fifteenth year, the Commonwealth's chief environmental regulatory agency has more focused priorities and a new name to reflect them.

When Governor Michael S. Dukakis signed the budget for fiscal year 1990 into law, he gave us a new identity. The Department of Environmental Quality Engineering (DEQE) became the Department of Environmental Protection (DEP).

The agency's name change was recommended by the legislature's Special Commission on Environmental Operations — chaired by former U.S. Senator Paul Tsongas — which submitted its report to state lawmakers last January. That panel also suggested a number of organizational changes, some of which were underway even before submission of the report.

In the Fall of 1988, for example, I unveiled an organizational strategy that for the first time coordinated agency-wide efforts to protect water resources and reduce solid and hazardous wastes at the source. With that initiative, ours became the first state environmental agency in the nation to make waste prevention, rather than end-of-the-pipe regulation, its primary goal.

Engineering remains vital to what we do, but we now realize we cannot engineer a solution to every environmental problem we face. The most efficient and cost-effective strategy — both for us and for the businesses we regulate — is to prevent those problems from occurring.

Today, in partnership with towns and cities, the Department of Environmental Protection is engaged in broad efforts to protect and enhance the Commonwealth's vital natural resources. Our new name reflects our sharper focus.

I invite you now to review with me the agency's history, its accomplishments in fiscal year 1989, and its agenda for the decade ahead.

Daniel S. Greenbaum
Commissioner

A CRITICAL MISSION

The Department of Environmental Protection is responsible for protecting and enhancing the Commonwealth's natural resources — air, water, land — to provide for the health, safety, welfare and enjoyment of citizens and the protection of their property. DEP accomplishes its mission by:

- Identifying and protecting critical natural resources;
- Planning for and implementing air, water and land protection programs using permitting, compliance and enforcement to prevent waste and encourage waste reduction at the source;
- Assessing and cleaning up hazardous and other waste sites;
- Helping people understand our environment and the need to protect it;
- Providing financial and technical assistance for environmental protection initiatives undertaken by towns and cities; and
- Conducting research and analysis to assess the impacts of toxic and hazardous materials on public health and the environment.

Despite a fiscal year 1989 revenue shortfall that crippled many state programs, DEP was able to overcome obstacles and forge ahead in many areas of environmental protection — making significant advances that bode well for the future.

THE SUM OF THE PARTS

The accomplishments of DEP's Resource Protection, Waste Prevention and Waste Site Cleanup bureaus can be summarized in eight broad activity categories. Provided here is a summary of those activities for FY89.

REGULATION AND POLICY DEVELOPMENT

In keeping with its primary mandate, DEP develops, modifies and evaluates legislation, regulations, policies and procedures designed to protect public health and the environment. Last fiscal year, DEP (then called the Department of Environmental Quality Engineering) promulgated nine new sets of regulations and adopted 34 new policies, including:

- The Massachusetts Contingency Plan, *a blueprint for hazardous waste site assessment and cleanup*,
- Regulations aimed at reducing industrial emissions that cause acid rain,
- Rules requiring a reformulation of gasoline that would lower its evaporation rate and cut down on smog during summer, and
- Siting regulations for solid waste management facilities, establishing statewide criteria for the first time.

PERMITTING

Through the careful review of scientific and technical data, the processing of notices of intent filed by builders and material safety data sheets (MSDSs) submitted by industry, and the issuance of permits, licenses, plan approvals, certificates and wetlands orders of conditions, DEP ensures that all industrial activity and new development meets the highest environmental standards.

Of all major activities, DEP spends much of its time and effort on permitting. During fiscal year 1989, the agency:

- Issued more than 12,200 permits, licenses and plan approvals;
- 4,724 certificates ; and
- 405 wetlands orders of conditions.
- The agency processed 8,885 notices of intent
- And some 90,000 MSDSs.

COMPLIANCE ASSESSMENT

To ensure that all facilities which discharge wastes to the ground, water or air comply with environmental protection laws and meet the conditions of their permits, DEP conducts inspections, as well as sampling and analysis of effluent, emissions and ambient conditions. In FY89, DEP conducted


- Approximately 4,000 facility inspections and
- More than 38,600 compliance assessments.

ENFORCEMENT

When actual or suspected violations are discovered by DEP during the course of compliance assessment, environmental monitoring or investigations resulting from complaints, the agency takes enforcement actions against the parties responsible. Depending on the nature of the offense, DEP issues Notices of Non-Compliance, Administrative Orders or Penalty Assessment Notices to violators. Some cases are referred to the office of the Attorney General.

Last fiscal year, DEP issued nearly 1,400 Notices of Non-Compliance. In more than 500 of those cases, the violations continued and it was necessary for the agency to take further action.

- DEP issued Administrative Orders in 310 of those instances and assessed penalties totalling \$2,715,247 in 212 cases.



Digitized by the Internet Archive
in 2012 with funding from
Boston Library Consortium Member Libraries

<http://archive.org/details/annualreportofma1989mass>

• *Flagrant violators in 17 cases were referred to the Attorney General.*

ENVIRONMENTAL MONITORING

To establish baselines for environmental protection, DEP conducts monitoring to measure or characterize ambient environmental quality or the status of natural eco-systems. During fiscal year 1989, DEP conducted 41 river basin surveys and 42 other site-specific surveys. The agency also had in place 125 monitoring instruments to gather air quality data across the Commonwealth.

EMERGENCY RESPONSE

In cooperation with local fire, police and public works officials as well as other state agencies, DEP responds to all chemical fires, releases or spills that pose a significant threat to public health and safety or the environment. During fiscal year 1989, the agency

• *Responded to 4,315 emergency releases of oil or hazardous materials.*

ASSESSMENT/REMEDIATION

Under the 1983 state Superfund law —

and amendments enacted by Massachusetts voters in 1986 — DEP reviews information from a variety of sources to identify suspected hazardous waste disposal sites; conducts assessments to determine whether those sites are indeed contaminated; and oversees the cleanup of sites where toxic releases have been confirmed. Last fiscal year, DEP

• *Identified 992 locations to be investigated ;*

• *Confirmed contamination at 183 other sites ; and*

• *Completed cleanups at 16 more.*

MUNICIPAL ASSISTANCE

As part of its environmental protection partnership with towns and cities, DEP provides them with financial and technical assistance. The agency administers a number of grant and reimbursement programs which help communities ensure the quality of their drinking water, improve their wastewater treatment practices and better manage their solid waste. A summary of that activity in fiscal year 1989 is provided below.

GRANTS TO MUNICIPALITIES FISCAL YEAR 1989

DIVISION	GRANT PROGRAM	NO. OF AWARDS	TOTAL
Solid Waste	Composting Grants	32	\$ 1,153,200
Solid Waste	Landfill Capping	6	2,812,500
Solid Waste	Landfill Construction	1	5,656,912
Solid Waste	Recycling/Local Planning	13	2,061,119
Solid Waste	Solid Waste Bond	2	589,942
Water Pollution Control	Clean Lakes	4	857,005
Water Pollution Control	Collection Systems	10	15,160,000
Water Pollution Control	Infiltration and Inflow	26	10,781,290
Water Pollution Control	Research & Demonstration	7	870,715
Water Pollution Control	Construction Grants	3	47,362,064
Water Pollution Control	Tier II	12	20,980,962
Water Supply	Aquifer Land Acquisition	4	1,261,568
Water Supply	Capital Line Item	2	250,000
Water Supply	Contamination Correction	9	1,033,678
Water Supply	Infiltration and Inflow	1	63,450
Water Supply	Leak Detection	4	116,175
Water Supply	Meter Modernization	48	5,865,300
Water Supply	System Rehabilitation	12	2,933,676
Water Supply	Water Filtration	12	22,410,471
		208	142,410,027

THE
JOURNAL
OF
THE
ROYAL
ANTHROPOLOGICAL
INSTITUTE
OF GREAT BRITAIN
AND IRELAND
VOLUME 10
PART 1
1910

Published by the
Royal Anthropological Institute
of Great Britain and Ireland
21, BEDFORD SQUARE, LONDON, W.C.1
1910

CONTENTS
PAGES
The Evolution of Man, by H. H. S. G. ... 1
The Evolution of Man, by H. H. S. G. ... 2
The Evolution of Man, by H. H. S. G. ... 3

The Evolution of Man, by H. H. S. G. ... 4
The Evolution of Man, by H. H. S. G. ... 5
The Evolution of Man, by H. H. S. G. ... 6

The Evolution of Man, by H. H. S. G. ... 7
The Evolution of Man, by H. H. S. G. ... 8
The Evolution of Man, by H. H. S. G. ... 9

The Evolution of Man, by H. H. S. G. ... 10
The Evolution of Man, by H. H. S. G. ... 11
The Evolution of Man, by H. H. S. G. ... 12

The Evolution of Man, by H. H. S. G. ... 13
The Evolution of Man, by H. H. S. G. ... 14
The Evolution of Man, by H. H. S. G. ... 15

The Evolution of Man, by H. H. S. G. ... 16
The Evolution of Man, by H. H. S. G. ... 17
The Evolution of Man, by H. H. S. G. ... 18

The Evolution of Man, by H. H. S. G. ... 19
The Evolution of Man, by H. H. S. G. ... 20
The Evolution of Man, by H. H. S. G. ... 21

The Evolution of Man, by H. H. S. G. ... 22
The Evolution of Man, by H. H. S. G. ... 23
The Evolution of Man, by H. H. S. G. ... 24

JULY 1988

DEP (then still named the Department of Environmental Quality Engineering) seeks U.S. Environmental Protection Agency (EPA) approval of proposed state regulations which would require a reformulation of gasoline sold in Massachusetts during the summer months. The measure would reduce smog-causing emissions by 9,000 tons annually.

Commissioner Greenbaum announces \$24.6 million in grant offers that will help 22 Massachusetts communities build new sewer systems.

DEP hits Browning-Ferris Industries with a \$150,000 administrative penalty for permit violations at a landfill it operates in Randolph.

AUGUST

Launching a six-month pilot project encouraged by DEP and the Department of Environmental Management, Martha's Vineyard opens a permanent household hazardous waste collection center for year-round residents of the island.

The Attorney General's office, acting on DEP's behalf, successfully prosecutes a Cape Cod firm for unauthorized installation and operation of equipment that emits 1,300 tons per year of ozone-depleting chlorofluorocarbons (CFCs). Packaging Industries Group Inc. of Hyannis is fined a record \$700,000 in the landmark case.

The agency's Division of Solid Waste Management announces that 38 Massachusetts landfills — suspected of posing significant threats to water supplies, wetlands or residential areas — have been placed on a priority list for cleanup grants and loans.

SEPTEMBER

In Lanesborough, the 100-store Berkshire Mall opens six months late after

the developer — Pyramid Companies of Syracuse, N.Y. — finally acquires all necessary state permits. DEP's Western regional office blocked the scheduled March grand opening because Pyramid lacked wetlands, water supply and wastewater treatment approvals.

Commissioner Greenbaum unveils a state-of-the-art mobile air monitoring laboratory, valued at \$700,000, with which the Division of Air Quality Control will conduct field investigations and respond to emergencies.

The Division of Solid Waste Management promulgates new site regulations, which for the first time give local boards of health consistent guidance in determining site suitability for different types of solid waste management facilities.

The Division of Water Pollution Control completes a statewide assessment of "non-point" sources of water pollution, including runoff from cities, farms, highways, landfills and construction sites.

OCTOBER

Giving sharper focus to the agency's chief objectives, Commissioner Greenbaum announces an organizational strategy that for the first time coordinates agency-wide efforts to protect natural resources and reduce waste at the source.

The Massachusetts Contingency Plan — regulations that will serve as a blueprint for hazardous waste site cleanup — takes effect.

Rapid Processing Company, a Haverhill fabric coating firm, agrees to pay a \$100,000 penalty for violations of state air quality regulations dating back to 1980.

In Millbury, DEP officials and state legislators dedicate a new \$500,000 training center for wastewater treatment plant operators from across the Commonwealth.

CHRONICLING THE MILESTONES

DEP and the Department of Public Health jointly develop regulations requiring commercial water bottlers to meet the same stringent standards that apply to public water suppliers.

NOVEMBER

Commissioner Greenbaum releases a ten-point agenda of actions DEP will take to meet its waste prevention and recycling goals, and to move toward an integrated system of solid waste management. He places a hold on the licensing and construction of new trash-to-energy plants until completion of a Solid Waste Master Plan.

Officials break ground for the state's first regional materials recovery facility in Springfield. Scheduled for an early 1990 opening, the center will process approximately 240 tons of recyclable materials per day from 85 Western Massachusetts communities.

DECEMBER

Seeking to fully fund its waste site cleanup program, DEP opens a public comment period on draft regulations that would enable the agency to recover its assessment and cleanup oversight expenses from responsible parties.

Giving the citizens of Massachusetts their first look at a trash disposal blueprint for the 21st century, Commissioner Greenbaum unveils an initial draft of the agency's solid waste master plan. Several rounds of public hearings will culminate in a final plan near the end of 1989.

Addressing concerns raised by the Haverhill Board of Health, DEP's Office of Research and Standards — through its affiliation with the Environmental Institute at the University of Massachusetts — assembles a special team of experts to study the health impacts of a local trash-to-energy plant.

At DEP's request, the Board of State Examiners of Plumbers and Gas Fitters adopts a permanent plumbing code change, allowing the installation of chlorinated polyvinyl chloride (CPVC) pipes in school drinking water lines. The move will reduce the threat of lead contamination.

The legislature's Special Commission on Environmental Operations recommends that DEQE change its name to Department of Environmental Protection. The panel also suggests a number of organizational refinements, some of which have already been implemented.

FEBRUARY

DEP and EPA announce a \$31 million settlement with 223 major potentially responsible parties for cleanup of the Re-Solve Inc. hazardous waste site in North Dartmouth.

With Quabbin Reservoir — which supplies 2.5 million Bay Staters with drinking water — at only 68 percent of its capacity, Secretary DeVillars and Commissioner Greenbaum announce DEP Division of Water Supply's declaration of a water emergency in 44 communities served by the Massachusetts Water Resources Authority (MWRA).

To better ensure agency-wide compliance with purchasing and other fiscal requirements, the Bureau of Administrative Services establishes an Internal Audit Unit.

On DEP's behalf, Attorney General James Shannon files suit against EPA for failing to rule on a state regulation — proposed last July — that would lead to a smog-cutting reformulation of gasoline.

MARCH

In the Berkshires, the Division of Water Supply issues its first permits to major water users under the Water Management Act.

The Division of Air Quality conducts public hearings on draft regulations that would require service station owners to install special nozzles on pumps to prevent gasoline from evaporating while motorists are refueling their vehicles. The move would reduce smog-causing emissions by 8,950 tons per year.

Working together, DEP's Central regional office and Division of Right-To-Know implement a data base pilot project to better track quantities and types of chemicals used by some 800 Central Massachusetts businesses.

APRIL

Governor Dukakis files bills to tighten the Commonwealth's environmental review process and restore to state and local officials the right to investigate wetlands violations on private property — both weakened by state Supreme Court decisions.

Secretary John DeVillars and Commissioner Greenbaum announce a landmark settlement with Mobil Oil Corporation, which pays a \$300,000 penalty for failing to report a leaking underground storage tank in Barnstable and agrees to replace aging steel tanks at 75 service stations in Massachusetts.

Nine months after they are proposed, EPA approves DEP regulations requiring a smog-reducing reformulation of gasoline.

Emergency staff from the Southeast regional office respond to a pre-dawn fire at an Attleboro chemical warehouse — containing cyanide, flammable solvents, dyes and soaps — which forces the evacuation of some 1500 people from their homes. De-

partment air monitoring reveals no serious public health impacts.

MAY

Governor Dukakis, Secretary DeVillars and Attorney General Shannon announce the creation of a 34-member Environmental Crimes Strike Force. A dozen of its members, including Director L. James Miller, are selected from the staff of DEP.

In cooperation with the Town of Kingston and the Plymouth County Coalition for a Better Environment, DEP petitions EPA to designate the Plymouth-Carver Aquifer — second largest in Massachusetts and the water supply for parts of eight towns — a sole source aquifer.

Governor Dukakis announces the adoption of regulations, developed by DEP's Air Quality Division, that will give Massachusetts the most comprehensive acid rain control program in the country. The result will be an annual reduction of up to 87,000 tons in sulfur dioxide emissions from older factories and power plants.

With the level of the Quabbin Reservoir still precariously low, DEP requires MWRA and the 44 communities served by the Quabbin system to take strict and immediate steps to conserve water. Residential outdoor water use is banned between 8 a.m. and 8 p.m.

In a mediated settlement, Colonial Gas of Lowell agrees to pay \$2.75 million to DEP and to eight families displaced from their homes, which had been built on an old coal gasification dump. It is the first time in Massachusetts that a formal mediation process resolves this type of dispute.

The Division of Wetlands and Waterways Regulation proposes the first increase in wetlands filing fees since 1972. The new fees, to be determined by a sliding scale based on project size and type, will help the state and local conservation commissions better enforce the Wetlands Protection Act.

JUNE

DEP hits a Mattapoisett developer with a \$200,675 penalty — largest ever in a Massachusetts wetlands case — for illegally filling wetlands and coastal flood plains, then ignoring repeated orders to undo the damage.

Moving to protect coastal dunes and groundwater resources, the agency bans new sewer connections on Nantucket. The moratorium will remain in effect until the town builds sewage treatment facilities capable of handling the island's wastewater.

State environmental officials announce that the Northeast regional office has assessed \$121,000 in penalties against Merrimack River polluters — including firms from Lowell and Haverhill as well as the City of Lawrence — in a campaign to protect the river, a water supply for residents of five communities.

Researchers working under an agreement with the agency conclude that health risks from the Ogden-Martin resource recovery plant in Haverhill fall within acceptable ranges, as determined by the local Board of Health.


In Northampton, DEP offers officials a \$5.5 million grant that will enable the

city and a dozen neighboring towns to build a regional landfill, and ultimately a composting facility, that will serve them well into the 21st century.

After refining the plan, DEP announces that in July it will begin billing responsible parties for agency oversight of hazardous waste site cleanups.

The Division of Hazardous Waste begins stepped up enforcement of the state law requiring retailers to take back used motor oil from customers with proof of purchase. The 1974 law is intended to discourage environmentally unsafe disposal of oil.

Culminating months of talks, the operator of a Saugus trash-to-energy plant signs a consent order requiring a phased closure of an old landfill used for ash disposal. Refuse Energy Systems Co. also agrees to a \$400,000 restoration of adjacent marshes.

The Washington-based National Center for Policy Alternatives cites DEP and Commissioner Greenbaum for taking two exemplary state environmental actions: placing a one-year hold on new incinerators and working with other Northeast states to lower the volatility of gasoline. 

LOOKING AHEAD

As a regulatory agency, DEP engages in literally thousands of activities, many of which are essential to addressing specific environmental concerns or to implementing key pieces of legislation. And while most of the agency's energy and resources will be devoted to these activities, DEP also must pursue several broad goals over the next three years.

First, the agency will expand and substantially improve its **communication** with the public, the regulated community, local officials, legislators, environmentalists and the news media. In large part, DEP's credibility and effectiveness depend on its ability to communicate with people, to publicize its actions and to respond to its several constituencies.


Second, DEP will strive to pinpoint and **protect the Commonwealth's water resources**. Few resources are as widely respected yet widely abused as water. Through agency-wide policies, DEP must identify critical groundwaters, surface waters and wetlands in need of protection and will move aggressively to restore those now polluted.

Third, DEP will — in each of its programs, regulations and actions —

promote waste prevention through reductions at the source, recycling and related techniques. We will seek, by implementing the Toxic Use Reduction Law, to cut toxic discharges in half by 1997. Our society now realizes that there is no cheap and easy place to "throw things away." Waste prevention is the best and most cost-effective long-term strategy toward clean air and water.

Finally, the agency must **improve its effectiveness and efficiency by:**

- Improving enforcement of environmental law;
- Building new municipal-state partnerships;
- Reviewing, revising permitting practices, to reduce backlogs and focus staff time on priority cases; and
- Fully implementing the new agency-wide management information system.

These are ambitious objectives, but they largely reflect actions already under way, actions from which we can expect measurable and substantial progress in fiscal year 1990 and in the years beyond. 

BRIEFLY, A LONG HISTORY

Massachusetts has long been an innovator in the field of protecting public health and the environment. The Commonwealth developed America's first tidelands licensing statute in 1866. Three years later, at the urging of state Sanitary Commission chairman Lemuel Shattuck, Massachusetts became the first state in the nation to organize an integrated public health and environmental protection program.

In 1886, the State Board of Health (later the Department of Public Health) began requiring communities to test drinking water once a month. At the same time, the panel created a new Committee on Water Supply and Sewerage, which later became the Division of Environmental Health. The following year, Massachusetts opened its Lawrence Experiment Station.


Known as the "birthplace of environmental research in America," that facility pioneered many new approaches to domestic and industrial wastewater treatment and to drinking water bacteriology and chemistry. In the late 1960s and early 1970s, the laboratory conducted special studies on emerging problems such as mercury and paralytic shellfish poisoning.

Over the years, the Division of Environmental Health (part of DPH), was joined by other agencies in regulating agriculture, waterfront activity, natural resources management, sanitation and solid waste disposal. But they functioned independently until August 12, 1974, when Governor Francis Sargent signed into law an act which created an Executive Office of Environmental Affairs.

As part of that reorganization, five new agencies came into being — including one charged with protecting public health and the environment through licensing, permitting and regulation. On July 1, 1975, the 88-year-old Division of Environmental Health was merged with components of the Public Health and Public Works departments to form the Department of Environmental Quality Engineering.

In 1982, DEQE's mission was further refined. Created were seven divisions responsible for air quality control, environmental analysis, hazardous waste management and cleanup, water pollution control, water supply regulation, waterways licensing and wetlands protection.

Five years later, following passage of the landmark Solid Waste Act of 1987, the agency's responsibilities were broadened again. DEQE absorbed the Bureau of Solid Waste Disposal from the Department of Environmental Management and renamed it the Division of Solid Waste Management.

With its name changed to the Department of Environmental Protection in 1989, the agency places a new emphasis on protecting resources by reducing solid and hazardous wastes at the source. Three bureaus guide DEP toward its waste prevention, resource protection and waste site cleanup goals. 

THEORY OF THE EARTH

The theory of the earth is a branch of geology which deals with the origin and development of the earth and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features.

The theory of the earth is based on the study of the earth's structure and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features.

The theory of the earth is based on the study of the earth's structure and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features.

The theory of the earth is based on the study of the earth's structure and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features.

The theory of the earth is based on the study of the earth's structure and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features.

The theory of the earth is based on the study of the earth's structure and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features.

The theory of the earth is based on the study of the earth's structure and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features.



PRINTED ON RECYCLED PAPER

